

FAYZULLIN, F.F.; KOCHMAN, E.D.

Oscillographic study of the cathode reduction of oxide films on copper in a NaOH solution. Uch. zap. Kaz. un. 117 no.9:193-197 '57. (MIRA 13:1)

1. Kazanskiy gosudarstvennyy universitet im. V.I. Ul'yanova-Lenina.  
Kafedra fizicheskoy khimii.  
(Metallic oxides)

SOV/137-59-2-4529

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 2, p 314 (USSR)

AUTHORS: Voskresenskiy, V. A., Fayzullin, F. F.

TITLE: On the Droplet Method for the Determination of the Thickness of an Electrolytic Coating Layer (O kapel'nom metode opredeleniya tolshchiny sloya gal'vanicheskikh pokrytiy)

PERIODICAL: Uch. zap. Kazansk. un-ta, 1957, Vol 117, Nr 9, pp 198-200

ABSTRACT: Results are adduced on experimental work on the comparison of readings by the droplet and the gravimetric methods for the determination of the thickness of electrolytic coatings. Specimens in the form of either St-20 steel or Cu M-1 plates or rods were coated with various metals under shop conditions using ordinary standard electrolytes. At first the thickness was determined by the gravimetric method; then, on the same specimens, it was determined by the droplet method according to the empirical formula:  $\sigma_{ave} = (N-1)K$ , where  $\sigma_{ave}$  is the average local thickness, in  $\mu$ , of the metal layer, N is the number of drops of the reagent that was used in the determination, K is the thickness of the coating in  $\mu$  which is removed by one drop of reagent at the given temperature. In all cases the thickness of the

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SOV/137-59-2-4529

On the Droplet Method for the Determination of the Thickness of an (cont.)

coating as determined by the droplet method was lower than that determined gravimetrically. The author proposes slightly changed empirical formulae for the determination of the thickness of Ni, Zn, Ag, Cu, Sn, Cd and brass coatings by the droplet method while retaining the universally accepted values for K. 30% HNO<sub>3</sub> is proposed as a reagent for determining the thickness of a layer of brass. The values for K at different temperatures for this type of coating have been established experimentally.

Ya. L.

Card 2/2

FAYZULLIN, F.F.; NIKITIN, Ye.V.

Regularities in the anodic oxidation of gallium in KOH solution.  
Elektrokhimiia 2 no.1:112-115 Ja '66. (MIRA 19:1)

1. Kazanskiy gosudarstvennyy universitet imeni V.I. Ul'yanova-Lenina. Submitted May 27, 1965.

L 21838-66 EWT(m)/EWP(t) IJP(e) JD/JG  
ACC NR: AP6003502

SOURCE CODE: UR/0364/66/002/001/0112/0115

AUTHOR: Fayzullin, F. F.; Nikitin, Ye. V.

ORG: Kazan State University im. V. I. Ul'yanova-Lenin (Kazanskiy gosudarstvennyy universitet) 34  
8

TITLE: Anodic oxidation of gallium in KOH solutions 11

SOURCE: Elektrokhimiya, v. 2, no. 1, 1966, 112-115

TOPIC TAGS: gallium, anodic oxidation, electrochemistry

ABSTRACT: The present article was written to fill a gap in the literature on the anodic oxidation of gallium in alkaline solutions. The investigation was based on the automatic recording of galvanostatic curves and polarization curves. The structure of anodic oxide films was studied by electron diffraction. In these investigations, 0.1 N KOH was used. The oxygen was removed by purging solutions with nitrogen. Each experiment was conducted in a freshly prepared electrolyte at 25°C. Polarization measurements showed that the formation of the primary oxide at negative potentials is preceded by cathodic liberation of hydrogen, followed by its subse-

Card 1/2

UDC: 541.138.2 : 546.681

2

L 21838-66

ACC NR: AP6003502

quent desorption from the electrode surface. When the potential is changed to a value more positive than -1.1 v vs the normal hydrogen electrode, a sharp increase in the polarization curve occurs, thus indicating the active anodic dissolution of gallium. Starting from -0.25 v, lowering of the polarization current occurs; this is associated with passivation of the gallium electrode due to formation of the anodic oxide film. The electron diffraction studies identified this film as  $Ga_2O_3$ . Several distinct regions are distinguishable on potentiostatic curves: a) formation of the primary oxide film; b) dissolution of the primary oxide film by alkali; c) anodic dissolution of gallium via the primary oxide film with formation of gallate ions, formation of oxide film by hydrolysis of gallate ions along with the chemical dissolution of this film all take place simultaneously; d) direct anodic oxidation of the gallium electrode. Anodic liberation of oxygen takes place at high potentials (10-30 v). Orig. art. has: 3 figures.

SUB CODE: 11, 07 SUBM DATE: 27May65/ ORIG REF: 004/ OTH REF: 013

Card 2/2 nst

L 04773-67 EWT(m)/EWP(t)/ETI IJP(c) JD/JG/WB

ACC NR: AP6025719

SOURCE CODE: UR/0365/66/002/004/0439/0443

AUTHOR: Fayzullin, F. F.; Baytalov, D. A.

ORG: Kazan' University im. V. I. Ul'yanov-Lenin (Kazanskiy universitet)

TITLE: Electrochemical behavior of titanium<sup>27</sup> in alkali solutions. I.  
Anodic behavior of titanium in dilute alkali solutions<sup>27</sup>

SOURCE: Zashchita metallov, v. 2, no. 4, 1966, 439-443

TOPIC TAGS: titanium, electrochemistry, corrosion rate, corrosion resistance, solution kinetics, titanium oxide<sup>18</sup>

ABSTRACT: The anodic behavior of titanium in KOH solutions was studied in order to explain the causes of its passivation in alkaline solutions. Ti is self-passivating in dilute (0.1, 0.0 and 2.0 N) KOH and self-activating in concentrated (over 5.0 N) KOH solutions. The passive state in 0.1 N KOH occurs in the potential range +0.03 to +0.90 v, and in 1.0 N, from -0.03 to +0.86<sub>2</sub>v; the rate of solution in the passive state is 2 and 4 microamps/cm<sup>2</sup>, respectively. Passivation in these solutions is caused by the formation of an oxide film with defective structures containing an excess of anionic components. Superpassivation of Ti was observed in the +0.90 to +1.2 v potential range. It is

UDC: 620.193.42:669.295

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L 04773-67

ACC NR: AP6025719

suggested that this process is determined by the formation of titanium peroxide. Orig. art. has: 4 figures and 1 table.

SUB CODE: 11,07/ SUBM DATE: 12Oct65/ ORIG REF: 005/ OTH REF: 006

Card 2/2 88

ACC NR: AP6036105

(N)

SOURCE CODE: ER/0365/66/002/006/0623/0627

AUTHOR: Fayzullin, F. F.; Levina, V. K.

ORG: Kazan State University im. V. I. Ul'yanov-Lenin (Kazanskiy gosudarstvennyy universitet)

TITLE: Anodic passivation of chromium in alkaline solutions

SOURCE: Zashchita metallov, v. 2, no. 6, 1966, 623-627

TOPIC TAGS: chromium, cathode polarization, corrosion protection

ABSTRACT: The subject of the experiments was electrolytic chromium of 99.9% purity. The electrode was a plate with a total surface of 3 cm<sup>2</sup>. An electronographic study was made of the structure of the surface of the electrode, and the electrolyte was analyzed for sesquivalent chromium. Based on the experimental data, curves are given for: polarization of chromium in 1 and 10 N solutions of KOH; dependence of the concentration of chromate ions in the solution on the potential of the electrode; dependence of the chromium potential on time in anodic polarization; and the potential drop after polarization of chromium in the passivation region. The following conclusions were drawn: 1) the passivity of chromium is due to formation, during the first stage of anodic polarization, of an absorption oxide of the type  $Cr_2O_3$  ads, which is subsequently transformed into a phase film; 2) the passivated film has a

UDC: 541.138.2

Card 1/2

ACC NR: AP6036105

p-type conductivity; 3) the passage of chromium into solution during the stage of passivation takes place through an oxide semiconducting film. Orig. art. has: 4 figures and 1 table.

SUB CODE: 11, 20/ SUBM DATE: 03Jan66/ ORIG REF: 018/ OTH REF: 008

Card 2/2

ACC NR: AP7004492

(A)

SOURCE CODE: UR/0364/67/003/001/0120/0122

AUTHORS: Fayzullin, F. F.; Nikitin, Ye. V.; Gudina, N. N.

ORG: Kazan State University im. V. I. Ul'yanov-Lenin (Kazanskiy gosudarstvennyy universitet)

TITLE: On the mechanism of the formation of anode films on liquid gallium

SOURCE: Elektrokimiya, v. 3, no. 1. 1967, 120-122

TOPIC TAGS: gallium, electrode, electrode potential, mercury alloy, mercury compound, potassium compound, electric impedance, electrolyte, electric resistance, electric capacitance, gallium compound, *OXIDE FORMATION, LIQUID METAL*

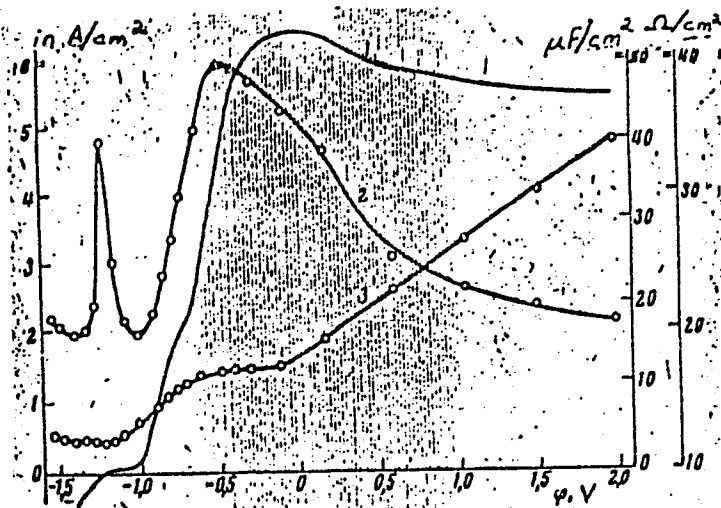
ABSTRACT: The mechanism of the formation of anode oxide films on a liquid gallium electrode in alkali solutions is studied. The electrode design is described by T. I. Lezhava, A. T. Vagramyan (Izv. AN SSSR, Ser. khim., No. 3, 435, 1964). The purity of the gallium was 99.9996%. A mercury-mercurous oxide electrode served as the comparison electrode. The KOH solutions were prepared by dissociation of potassium amalgam in doubly distilled water; all tests were at 32C. Polarization potentiostatic curves were plotted (see Fig. 1). Alternating current of 100—20 000 cycles was applied to the gallium electrode and to a platinum-plated platinum disk over the surface of the electrode under study. The electrode impedance was also measured. It was found to be probable that active dissolution of the gallium electrode and the formation and growth

UDC: 541.13

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ACC NR: AP7004492

Fig. 1. Polarization potentiostatic curve of  $i$  versus  $\Phi$  (1) of liquid gallium electrode in 0.1-N KOH at 32°C; and curves of capacitance  $C$  (2) and resistance  $R$  (3) versus electrode potential in same solution at 1000 cycles



of the passivating oxide are not controlled by diffusion of the reacting particles.  
Orig. art. has: 2 graphs.

SUB CODE: 07/ SURM DATE: 04Jul66/ORIG REF: 006/ OTH REF: 005

Card 2/2

L 17230-63

BDS/EPR/EPF(c)/EWP(j)/EWT(m)/ES(s)-2--AFFTC/ASD/SSD

Ps-4/Pc-4/Pr-4/Pt-4--RM/WW/MAY

ACCESSION NR: AP3006757

S/0190/63/005/009/1351/1353

AUTHOR: Kuznetsov, Ye. V.; Fayzullin, I. N.

TITLE: Synthesis of organophosphorus polysulfones

SOURCE: Vy\*sokomolekulyarny\*ye soyedineniya, v. 5, no. 9, 1963, 1351-1353

TOPIC TAGS: inorganic polymer, organophosphorus polysulfone, polymerization, synthesis, polysulfone synthesis, copolymerization, 2-butoxyvinylphosphonic acid, 2-butoxyvinylphosphonic acid ester, sulfur dioxide, isopropylperoxybenzoic acid, initiator, viscosity, reduced viscosity, curing, polysulfone curing, curing agent, polysulfone property modification, property modification, 1-naphthyl isocyanate, 1-6-hexamethylene diisocyanate, 2-butoxyvinylphosphonate

ABSTRACT: Phosphorus-containing polysulfones have been synthesized by the reaction of 2-butoxyvinylphosphonates with sulfur dioxide at 0°C. Copolymerization was conducted in benzene with constant bubbling of the SO<sub>2</sub>; isopropylperoxybenzoic acid served as the initiator.

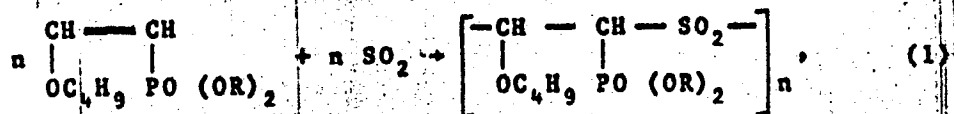
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L 17230-63

ACCESSION NR: AP3006757

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The reaction proceeded according to the equation:



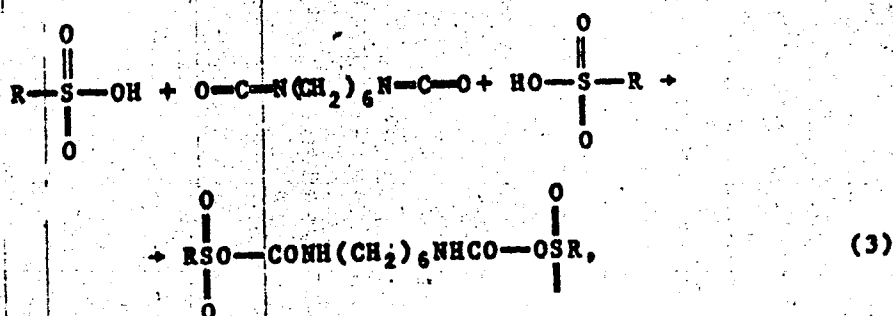
where R is, -CH<sub>3</sub>, -C<sub>2</sub>H<sub>5</sub>, -C<sub>3</sub>H<sub>7</sub>-n, -C<sub>3</sub>H<sub>7</sub>-iso, -C<sub>4</sub>H<sub>9</sub>-n, -C<sub>4</sub>H<sub>9</sub>-iso, or -C<sub>6</sub>H<sub>13</sub>-n. A yield of 95% was obtained. The polysulfones are transparent resins, light yellow to brown in color; they exhibit good adhesion to glass, porcelain, paper, and cloth and do not burn or support combustion. Like carbon-chain polysulfones, phosphorus-containing polysulfones are slightly soluble in many organic solvents. At room temperature they are readily soluble in methanol and slightly soluble in benzene. Evidently the molecular weights of the polysulfones are not high, as they show viscous flow at room temperature. Viscosity of the polysulfones was measured for 1% solutions in methanol, and their reduced viscosity was calculated to be in the 0.054—1.550 range. It was assumed that the polysulfones have -SO<sub>2</sub>OH end groups. Curing of the polysulfones was attempted by

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ACCESSION NR: AP3006757

reaction with isocyanates. The polysulfones were mixed with 1-naphthyl isocyanate or 1,6-hexamethylene diisocyanate and were heated for 13 hr at 75C and for 3 hr at 100C. The reactions proceeded as follows:



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ACCESSION NR: AP3006757 2

where R is a high-molecular-weight radical. The product of the reaction with 1-naphthyl isocyanate did not differ in appearance from the original polysulfone, but was highly viscous. The reaction with 1,6-hexamethylene diisocyanate led to the formation of solids which are insoluble in benzene even after prolonged heating. The purified product is a light yellow powder with a melting point of 115—120°C. The reaction is of particular interest since it can be used both to cure polysulfones and to modify their properties. Orig. art. has: 1 table and 3 formulas.

ASSOCIATION: Kazanskiy khimiko-tekhnologicheskii institut im. S. M. Kirova (Kazan' Institute of Chemical Technology)

SUBMITTED: 24Feb62

DATE ACQ: 30Sep63

ENCL: 00

SUB CODE: CH, MA

NO REF SOV: 006

OTHER: 010

Card 4/4

I. 39481-66 ENT(m)/EAP(j) RM/GD

ACC NR: AP6002514

SOURCE CODE: UR/0286/65/000/023/0018/0018

AUTHORS: Zhilyayev, G. G.; Fayzullin, I. N.; Nikolayeva, V. G.

ORG: none

TITLE: A method for obtaining diols containing phosphorus and nitrogen. Class 12,  
No. 176586

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 23, 1965, 18

TOPIC TAGS: phosphorus, nitrogen, diol, phosphinic acid, ethanol, sodium compound

ABSTRACT: This Author Certificate presents a method for obtaining diols containing phosphorus and nitrogen. In this method, diethanolamine is interacted with dialkyl esters of alkylene phosphinic acids in the presence of sodium ethylate while being heated. The heating may be conducted at 60--70C.

SUB CODE: 07/ SUBM DATE: 03Sep64

Cord 1/1 *mlr*

UDC: 547.419.1'438.1.07 2

ACCESSION NR: AP4042192

S/0190/64/006/007/1318/1322

AUTHOR: Kuznetsov, Ye. V., Faysullin, I. N., Merslyakova, E. Ya.

TITLE: Synthesis of phosphoorganic polysulfones. III. The reaction of sulfur dioxide with unsaturated phosphoorganic polyesters

SOURCE: Vy\*sokomolekulyarny\*ye soyedineniya, v. 6, no. 7, 1964, 1318-1322

TOPIC TAGS: polyester, interfacial condensation, vinylphosphinic acid, Beta-(n-butoxy) vinylphosphinic acid, diphenol, dichloroanhydride, hydroperoxide, dichloroethane, dioxane, sulfur dioxide, polymer hardening, polymerization initiator, phosphoorganic polyester, unsaturated polyester, polymerization catalyst, polysulfone, phosphoorganic polysulfone

ABSTRACT: Several unsaturated phosphoorganic polyesters were synthesized by the interfacial condensation of the dichlorides of vinylphosphinic and  $\beta$ -(n-butoxy) vinylphosphinic acids, and their properties were investigated. The resulting polyesters are liquid or solid resins of various colors, depending on the initial reactants. The tabulated data on the properties of the synthesized polyesters show that for polyesters obtained by the interaction of diphenols with the dichloroanhydrides of alkylenephosphinic acids the specific viscosity

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ACCESSION NR: AP4042192

increases during the transition from diphenylolpropane to resorcinol to hydroquinone. The main product is a cross-linked polymer which is insoluble in organic solvents and melts with decomposition. The equations for the reaction of unsaturated phosphoorganic polyesters with sulfur dioxide are given. The experimental data show that polyesters based on  $\beta$ -(n-butoxy) vinylphosphinic acid do not react with sulfur dioxide, apparently because of steric factors. With the other polyesters, when dichloroethane, dioxane or their mixture are used as solvents and the initiator is isopropylbenzene hydroperoxide, the reaction proceeds with evolution of heat. The resulting products do not dissolve in dichloroethane, dioxane or other organic solvents. A change in the reaction conditions does not lead to an increase in the amount of sulfur in the polymer. The curves relating the degree of hardening and the amount of initiator show that an increase in the amount of initiator decreases the formation of an insoluble residue. This is explained by the assumption that the addition of an increased amount of hydroperoxide forms a compound containing  $\text{SO}_3\text{H}$  groups with the cross-linked polymer.

ASSOCIATION: Kazanskiy khimiko-tekhnologicheskii institut im. S. M. Kirova (Kazan Chemical-Engineering Institute)

2/3

Card

ACCESSION NR: AP4042192

SUBMITTED: 06Sep63

ENCL: 00

SUB CODE: OC

NO REF SOV: 009

OTHER: 001

3/3

L 13295-66 EWT(m)/T/EWP(j) RM  
ACC NR: AP6000330 SOURCE CODE: UR/0286/65/000/021/0019/0019  
INVENTOR: Kuznetsov, Ye. V.; Fayzullina, D. A.; Fayzullin, I. N.; Prasolova, T. N.; Tyurikova, R. P.  
ORG: none  
TITLE: A method for producing polysulfonates which contain phosphorus. Class 12, No. 175964  
SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 21, 1965, 19  
TOPIC TAGS: polymer, organic phosphorus compound, sulfonation, *SULFUR COMPOUND*  
ABSTRACT: This Author's Certificate introduces a method for producing polysulfonates which contain phosphorus. New polymers are produced by interacting disulfochlorides with organophosphorus compounds which contain hydroxyl radicals.  
SUB COLE: 07/ SUBM DATE: 06Jul62/ ORIG REF: 000/ OTH REF: 000

jw  
Card 1/1

UDC: 678.85 : 678.684

A

ACC NR: L 11520-66

AP6001870

ENT(m)/EWP(j)

RPL

WW/RM

AUTHORS: Kuznetsov, Ye. V.; Fayzullina, D. A.; Fayzullin, I. N.; Prosolova, T. N.; Avvakumova, N. I.

SOURCE CODE: UR/0190/65/007/012/2146/2149

ORG: Kazan' Chemico-Technical Institute im. S. M. Kirov (Kazanskiy khimiko-tekhnologicheskii institut)

TITLE: Interaction of aromatic disulfochlorides with dimethylol-containing phosphorus compounds. 2nd communication in the series Phosphorus-containing polysulphonates

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 12, 1965, 2146-2149

TOPIC TAGS: polymer, polymerization, organic phosphorus compound, organic sulfur compound, sulfonic acid, organic synthetic process

ABSTRACT: This work was performed to extend the previously reported results of Ye. V. Kuznetsov, D. A. Fayzullina, and R. P. Tyurikova (Vysokomolek. soyed., 7, 761, 1965) and particularly to investigate the possibility of synthesizing linear polysulphonates on the basis of aromatic disulfochlorides and dimethyl-containing phosphorus organic compounds. The following phosphorus-containing polysulphonates based on bis-methylolphosphinic acid/ propyl-, isopropyl-, isobutyl-, dimethylol-phosphines and benzene-, toluene-, chlorobenzene-, diphenyl-, naphthalenedisulfochlorides were synthesized. The reactions were carried out either in the melt or

UDC: 541.64+678.86

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L 11520-66

ACC NR: AP6001870

in n-heptane at 70-130C. Several physical properties, e.g., refractive index, solubility, viscosity, etc. were studied, and the results were tabulated. It was found that polysulfonates derived from bis-methylol-phosphinic acid hardened when treated with diisocyanates. Orig. art. has: 2 tables and 4 equations.

SUB CODE: 0711/ SUBM DATE: 29Jan65/ ORIG REF: 003/

2/2

BAREYEV, R.A.; PAYZOLLIN, L.D.

Time of the formation of local structures and the oil fields  
of the Yelabuga-Bondyug zone of uplifts. Geol. nefti i gaza 8  
no.8:39-44 Ag '64, (MIRA 17:8)

FAYZULLIN, M.

Economic and statistical analysis of the operational costs  
of grain receiving enterprises in the Tatar A.S.S.R. Muk.-  
elev. prom. 29 no.7:14-17 J1 '63. (MIRA 17:1)

1. Kazanskiy finansovo-ekonomicheskiy institut.

ZIMINOV, N.V.; SMIRNOV, Yu.T.; FAZLULLIN, M.I.

Comparative evaluation of various ways of drilling ventilation holes.  
Uch. zap. SAIGIMSa no.7:241-248 '62. (MIRA 17:2)

1. Sredneaziatskiy nauchno-issledovatel'skiy institut geologii i mineral'nogo syr'ya, Tashkent i Kanimansurskaya geologo-razvedochnaya ekspeditatsiya.

SMIRNOV, Yu.I.; FAZLULLIN, M.I.

Approximate method of determining an efficient distance between ventilation holes. Izv.vys.ucheb.zav.; geol.i razv. 5 no.3:123-130 Mr '62. (MIRA 15:4)

1. Kan-i-Mansurakaya geologorazvedochnaya ekspeditsiya.  
(Mine ventilation) (Boring)

SMIRNOV, Yu.T.; FAZLULLIN, M.I.

Effect of some technical and economical parameters on the reasonable  
distance between ventilation holes. Uch.zap. SAIGIMS no.10:122-132  
'63. (MIRA 17:2)

FAYZULLIN, M. KH.

20133 FAYZULLIN, M. KH. Travmatizm v zheleznodorozhiykh. depo. Sbornik  
trudov vracheb.-san sluzhby kazansk. Zh. d., Vyp. 2, 1948, s. 7-15.

SO: LETOPIS ZHURNAL STATEY, Vol. 27, Moskva, 1949

**PAYZULLIN, M.Kh., professor; MITTEL'BERG, Ya.B.**

Reactions to pneumoencephalography in traumatic encephalopathy with an epileptic syndrome. Vop.neirokhir. 20 no.2:54-55 Mr-Apr '56.

(MLRA 9:7)

1. Iz kafedry rentgenologii i iz neyrokhirurgicheskoy kliniki Kazanskogo gosudarstvennogo instituta usovershenstvovaniya vrachey imeni V.I.Lenina

(BRAIN, wounds and inj.

causing epileptic synd., pneumoencephalography)

(WOUNDS AND INJURIES

brain, causing epileptic synd., pneumoencephalography)

(EPILEPSY

post-traum. epileptic synd. in brain inj.,

pneumoencephalography)

FAYZULLIN, M.Kh.

Roentgenodiagnosis of sinusitis of the maxillary sinuses. Vest.  
rent. 1 rad. 32 no.1:12-14 supplement '57 (MLRA 10:5)

1. Iz kafedry rentgenologii i radiologii Kazanskogo instituta  
usovershenstvovaniya vrachey imeni V.I. Lenina.  
(SINUSITIS, diag.  
x-ray diag. in maxillary sinusitis)

ADRIANOVSKIY, A.F.; GOL'DSHEYN, D.Ye., prof.; GOL'DSHEYN, M.I.; MITTEL'BERG, Ya.B.; SUKHORUKOV, B.Z.; FAYZULLIN, M.Kh., prof.

Seventh All-Union Congress of Radiologists. Kaz.-med.zhur. 40  
no.2:99-102 Mr-Apr '59. (MIRA 12:11)

1. Zaslushennyy deyatel' nauki Tatarskoy ASSR (for D.Ye.Gol'd-sheyn).

(RADIOLOGY, MEDICAL--CONGRESSES)

PAYZULLIN, M.Kh., prof.

Radiographic diagnosis of cancer of the accessory nasal sinuses.

Kaz.med.shur. 40 no.4:57-64 JI-Ag '59.

(MIRA 13:2)

1. Iz 1-y kafedry rentgenologii i radiologii (zaveduyushchiy - prof. M.Kh. Payzullin) Kazanskogo Gosudarstvennogo instituta dlya spetsializatsii i usovershenstvovaniya vrachey imeni V.I. Lenina (GIDUV).  
(NOSE, ACCESSORY SINUSES OF--CANCER)

FAYZULLIN, M.Kh., prof.

Survey of the activities of the Society of Roentgenologists and Radiologists of the Tatar A.S.S.R. in 1959. Vest. rent. 1 rad.  
35 no. 5:79-80 My-Je '60. (MIRA 14:2)

1. Predsedatel' pravleniya obshchestva rentgenologov i radiologov Tatarskoy ASSR.  
(TATAR A.S.S.R.— RADIOLOGICAL SOCIETIES)

FAYZULLIN, Midkhat Kharisovich, prof.; RAFIKOV, M.M., red.;  
KHUSNUTDINOV, Sh.S., tekhn. red.

[X-ray diagnosis of lesions of the skull and some problems of  
pneumoencephalography] Rentgenodiagnostika povrezhdenii mozgo-  
vogo cherepa i nekotorye voprosy pnevmoentsefalografii. Ka-  
zan', Tatarskoe knizhnoe izd-vo, 1961. 194 p. (MIRA 15:6)  
(SKULL--WOUNDS AND INJURIES) (ENCEPHALOGRAPHY)  
(BRAIN--WOUNDS AND INJURIES)

FAYZULLIN, Midkhat Kharisovich, prof.; AL'TSHULER, L.I., red.; SENCHILO,  
K.K., tekhn. red.

[X-ray diagnosis of diseases and injuries of the accessory nasal  
sinuses] Rentgenodiagnostika zabolevanii i povrezhdenii prida-  
tochnykh polostei nosa. Moskva, Medgiz, 1961. 212 p.  
(MIRA 15:7)

(NOSE, ACCESSORY SINUSES OF--RADIOGRAPHY)

FAYZULLIN, M.Kh.; GALIMOV, I.Kh.

Conference of readers "Vestnik rentgenologii i radiologii,"  
held in Kazan'. Vest.rent.i rad. 36 no.3:74 My-Je '61. (MIRA 14:7)  
(RADIOLOGY, MEDICAL--PERIODICALS)

FAYZULLIN, M.Kh., prof.; GALIMOV, I.Kh. (Kazan')

Bromine content of the blood during roentgenotherapy for adenomas of the pituitary and diencephalic syndromes. Klin.med.  
39 no.4:128-131 '61. (MIRA 34:4)

1. Iz nervnoy kafedry rentgenologii i radiologii (zav. - prof. M.Kh. Fayzullin) Kazanskogo instituta usovershenstvovaniya vrachey imeni V.I. Lenina.

(PITUITARY BODY---TUMORS) (DIENCEPHALON---DISEASES)  
(BROMINE IN THE BODY)

FAYZULLIN, M.Kh., prof.; ZYABBAROV, A.A., kand.med.nauk (Kazan')

First All-Russian Congress of Roentgenologists and Radiologists  
and the First All-Russian Conference on Fluorography (August  
28-31, 1961, Kuybyshev Province). Kaz. med. zhur. no.1:98 Ja-F  
'62. (MIRA 1543)

(DIAGNOSIS, FLUOROSCOPIC--CONGRESSES)  
(RADIOLOGY, MEDICAL--CONGRESSES)

FAYZULLIN, M.Kh.; FAYZULLIN, A.M.

X-ray diagnosis of retention cysts of the frontal sinuses. Vest.  
rent. 1 rad. 37 no.2:29-32 Mr-Apr '62. (MIRA 15:4)

1. Iz pervoy kafedry rentgenologii i radiologii (zav. - prof.  
M.Kh. Fayzullin) Kazanskogo instituta usovershenstvovaniya vrachey  
imeni V.I.Lenina otolaringologii (zav. - prof. N.N.Lozanov)  
Kazanskogo gosudarstvennogo meditsinskogo instituta.  
(FRONTAL SINUS--RADIOGRAPHY) (CYSTS)

FAYZULLIN, M.Kh., prof. (Kazan')

Training roentgenologists in the Kazan Institute for Postgraduate  
Medical Education. Vest. rent. 1 rad. 37 no.2:79-80 Mr-Ap' '62.  
(MIRA 15:4)

(RADIOLOGY, MEDICAL—STUDY AND TEACHING)

RAKHLIN, L.M., prof.; SOKOLOV, N.V., prof.; MONASYPOVA, M.V.;  
FAYZULLIN, M.Kh., prof.; GALIMOV, I.Kh.

In the scientific medical societies of the Tatar A. S. S. R.  
Kaz. med. zhur. no.2:94-96 Mr-Apr '62. (MIRA 15:6)  
(TATAR A. S. S. R.—MEDICAL SOCIETIES)

FAYZULLIN, M.Kh., prof. (Kazan'); KNIRIK, G.S., kand.med.nauk (Kazan');  
GALIMOV, I.Kh., kand.med.nauk (Kazan').

All-Union Conference of Neurosurgeons. Kaz.med. zhur. 4:  
88-89 JI-Ag'63 (MIRA 17:2)

FAYZULLIN, M.Kh., prof.; SUBBOTIN, N.P. (Kazan')

X-ray anatomy of the dura mater processes and venous sinuses  
and its practical significance. Vop. neirokhir. 27 no.1:13-18  
Ja-F '63. (MIRA 16:5)

1. Iz Pervoy kafedry rentgenologii i radiologii Kazanskogo in-  
stitutu usovershenstvovaniya vrachey.  
(DURA MATER--RADIOGRAPHY)

FAYZULLIN, M.Kh.

X-ray symptomatology of craniopharyngioma. Vest. rent. i rad. 39 no.4:  
37-42 J1-Ag '64. (MIRA 18:7)

1. 1-ya kafedra rentgenologii i radiologii (zav. - prof. M.Kh. Fayzullin)  
Kazanskogo instituta usovershenstvovaniya vrachey imeni Lenina.

FLY UDAV, N. M. --

"Water Erosion of the Soil under Tribal Kaya Forest Steppe  
Conditions in the Bashkir ASSR and Ways to Combat It." Cand. Agr.  
Sci., Soil Inst., Acad. Sci. USSR, Moscow 1954. (IzVGeol, Oct 54)

Survey of Scientific and Technical Dissertations Defended at  
USSR Higher Educational Institutions (10)

SO: Sum. No. 481, 5 May 55

TAYCHINOV, S.N.; FAYZULLIN, M.M.

Effect of surface features on dynamics of soil moisture [with  
summary in English]. Pochvovedenie no.10:46-53 0 '58.  
(MIRA 11:10)

1. Bashkirskiy sel'skokhozyaystvennyy institut, Ufa.  
(Soil moisture)

MUKHAMEDZHANOV, F.Sh., inzh.; FAYZULLIN, R.F., inzh. (Tashkent)

Mobile syphon for water intake from a flume network. Gidr. 1 mel.  
16 no.6:56-58 Je '64. (MIRA 17:9)

FAYZULLIN, S.G., dotsent (Kazan')

Professor V.V. Izosimov. Kaz.med.zhur. 41 no.1:5-7 Ja-F '60.  
(MIRA 13:6)

(IZOSIMOV, VSEVOLOD VLADIMIROVICH, 1899- )

18.3000

75580

SOV/130-59-10-12/20

AUTHOR: Fayzullin, V. Kh. (Leader of Sheet Rolling Section of  
Central Plant Laboratory - TsZL)

TITLE: Production of Cold-Rolled Dynamo Steel

PERIODICAL: Metallurg, 1959, Nr 10, pp 21-25 (USSR)

ABSTRACT: The techniques of cold-rolling dynamo steel were introduced at Magnitogorsk Metallurgical Combine (Magnitogorskiy metallurgicheskiy kombinat). Chemical composition of the steel (in %): C: 0.04-0.06, Si: 1.2-2.0, Mn: 0.25-0.40, S:  $\leq 0.025$ , P:  $\leq 0.03$ , Cr:  $\leq 0.05$ , Ni:  $\leq 0.05$ , Mn:  $\leq 0.15$ . Sheet sizes: 0.5 x 670 x 1,430 produced from 115 x 740 x 4,200 to 4,500 mm slabs; 0.5 x 750 x 1,500 mm produced from 110 x 810 x 4,200 to 4,500 mm slabs. Big-end-up 7.4-t ingots are used with bottom cross sections of 810 x 560 mm and top cross sections of 850 x 610 mm. Ingot height: 1,900 mm. The techniques were developed with a view to the facilities available at Magnitogorsk Metallurgical Combine by Kus-

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Production of Cold-Rolled Dynamo Steel

75580

SOV/130-9-10-12/20,

tabayev, G. G., Zaitsev, R. A., Kashintsev, V. V., Sokolov, V. A., and Babushkina, M. Ye. Sequence of operations: (1) heating ingots in soaking pits to 1,280-1,320°C; (2) rolling to 125 mm; (3) trimming top (14%) and bottom (2.5%); (4) rolling slabs to 115 or 110 mm and cutting to necessary length; (5) inspection and scarfing; (6) heating slabs in continuous furnace; (7) rolling in continuous fine-sheet mill (10 passes) to 2.4 mm; (8) coiling; (9) edge welding; (10) pickling and washing; (11) edge shearing; (12) lubrication; (13) cold-rolling to 0.5 mm in five-stand mill; (14) 50-hr three-step annealing; (15) dressing in two-stand mill (2.0-3.0% reduction); (16) 40-hr three-step second annealing; (17) shearing to size; (18) testing sheets for electromagnetic and plastic properties; (19) determination of steel quality. Dressing in a two-stand mill (1,200 mm) and second low-temperature annealing tremendously improved electromagnetic properties and decreased consumption factor per coil of metal to 1.17-1.20. The effect of silicon content on magnetic pro-

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Production of Cold-Rolled Dynamo Steel

75580  
SOV/130-2-10-12/20

Table 3

Dependence of electromagnetic properties of cold-rolled dynamo steel on the content of silicon

SILICON CONTENT %	NUMBER OF TEST BATCHES	MAGNETIC PROPERTIES		
		B <sub>2.5</sub> GAUSS	P <sub>10/50</sub> W/KG	P <sub>15/50</sub> W/KG
0.9-1.2	16	15700	3.09	6.55
1.21-1.30	54	15600	3.05	6.35
1.31-1.40	74	15700	2.98	6.10
1.41-1.50	79	15800	2.70	5.67
1.51-1.60	123	15700	2.62	5.54
1.61-1.70	152	15560	2.53	5.28
1.71-1.80	19	15780	2.22	4.82
1.81-1.95	28	15700	2.17	4.61

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Production of Cold-Rolled Dynamo Steel

75580

SOV/130-52-10-12/20

Properties of cold-rolled dynamo steel was determined in the course of 545 industrial tests, as shown in Table 3. Kolov, M. I., and Terekhova, G. I., of the thermal department of the Central Plant Laboratory (TsZL) studied the annealing temperature as it affects magnetic properties and grain size in dynamo steel. Watt losses were found to decrease at elevated annealing temperatures due to the considerable growth of the grain and a more complete recrystallization process. Decreased watt losses were observed after holding up to 36 hours. Advantages: (1) high plasticity (specimens withstand over 40 bends); (2) dimensional accuracy; and (3) absence of warping. There are 1 figure; and 8 tables.

ASSOCIATION: Central Plant Laboratory of Magnitogorsk Metallurgical Combine (TsZL Magnitogorskogo metallurgicheskogo kombinata)

Card 4/4

22316

S/133/61/000/004/005/014  
A054/A127

1.1300 1496, 1413, 1454

AUTHORS: Fayzullin, V. Kh., and Shubin, Ye. V.

TITLE: Cold-rolling of sheet-iron in continuous five-stand mills

PERIODICAL: Stal', no. 4, 1961, 333 - 336

TEXT: Since 1957 in the Magnitogorskiy metallurgicheskiy zavod (Magnitogorsk Metallurgical Plant) of the brands 25, 28 and 32 sheets have been cold-rolled on a continuous five-stand, four-roll mill from hot-rolled strips, 1.8 - 4.5 mm thick, 500 - 1,000 mm wide, on 400 - 500 mm diameter rolls. The rolling equipment has been improved in the past years. Reduction is now controlled automatically by flying contact micrometers, arranged after the first stand and transmitting impulses to the motor of the pressing screws when strip-thickness changes. The thickness of the strip after the last stand is measured by radio-isotope micrometers. The cold-rolled sheet is made of hot-rolled strips from 110 x 757 x 4,500 - 4,700 mm rimmed steel slabs, rolled on 1,450 mm mills, having the following composition: C: 0.09%; Mn: 0.30 - 0.45%; Si: traces; P ≤ 0.03%; S: ≤ 0.03%. Before pickling the hot-rolled strips they are cut and seam-welded. To obtain a high quality

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22310

Cold-rolling of sheet-iron in continuous...

S/133/61/000/004/005/014  
A054/A127

weld, the difference in thickness of the strip-ends must not be more than 0.15 - 0.2 mm. Tests were carried out in co-operation with V. V. Kashintsev, G. G. Kustobayev, V. I. Kulikov, G. A. Medvedev, K. V. Denisov and F. Zinchenko to reduce the difference in thickness by controlling the reduction of the rear end of the strip in the finishing stands of the 1,450 mill. The thickness of the rear ends of strips is now controlled automatically on the sixth stand of the 1,450 mill by lowering the pressing screws 1 mm. Owing to this the difference between the front and rear ends does not exceed 0.2 mm in about 70 - 75% of the strips; the maximum difference is also not more than 0.3 mm. This improved the quality of welding. The number of welds rolled without rupture increased to 80 - 85% as against 40 - 45% before automation. Before coiling up, the front end of the strip, the seams and the end of the coil are rolled at a low speed while rolling between the stands and between the last stand and the winch is performed place at maximum speed. High rolling speeds and great reductions result in considerable deviations in strip-thickness. When rolling at lower rates, the changes in strip-thickness can be offset by controlling the expansion of the strip. The mill is not yet provided with an expansion regulator for the accelera-

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22316

Cold-rolling of sheet-iron in continuous...

S/133/61/000/004/005/014  
A054/A127

tion and deceleration periods. Therefore the interval of acceleration and braking should be as short as possible. A minimum accelerating and braking interval raises the productivity of the mill and makes the strip-sector with greater thickness shorter. The best minimum rate for rolling the welds and rear-ends of the strip is 4.5 - 5.0 m/sec. Extensive tests were also carried out to determine the optimum conditions of reduction (distribution of reduction on the stands, expansion between them, the convexity of the working rolls, etc.). After several variations a method was adopted, in which relative reduction on the first stand was reduced to 27% (in the first method this was 45%, in the second: 36%). Hereby it was possible to minimize the effect of the longitudinal difference in strip-thickness on the quality of the finished product. This reduction control is made possible by the application of the flying micrometers mentioned earlier. By increasing the relative reduction in the fifth stand it is possible to pass through slightly thicker strips between the fourth and fifth stand, hereby reducing the amount of ruptures. By applying this variant of reduction schemes, the rolling speed can be increased to 12 - 15 m/sec and the average output/hour from 19 tons (achieved with the first variant) to 36.1 tons. However, the application of a more intensive reduction scheme increased waste due to the

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Cold-rolling of sheet-iron in continuous...

S/133/61/000/004/005/014  
A054/A127

warping of sheets, as the temperature of the rolls considerably increases in the fourth and fifth stand (45 - 50°C). These unstable heat conditions and the uneven distribution of lubricants over the width of the strip deteriorated its shape. Overheating of the rolls was prevented by feeding more cooling water on the fourth and fifth stand, while the best lubrication scheme was the following; before the third stand, from 4 nozzles (2 from below, 2 from above) and before the fourth and fifth stand from 8 nozzles (4 from above, 4 from below). The lower nozzles are mounted before the tensometers, the special rolls of which spread out the lubricant over the width of the strip. As lubricant a mixture of palmoil and water (1:4) is used. There are 3 figures and 1 table.

ASSOCIATION: Magnitogorsk metallurgicheskiy kombinat (Magnitogorsk Integrated Plant)

Card 4/4

S/137/61/000/007/016/072  
A060/A101

AUTHOR: Fayzullin, V. Kh.

TITLE: Longitudinal variation in thickness of hot rolled strips and measures for its prevention

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 7, 1961, 5, abstract 7D31  
("Tr. Konferentsii: Tekhn progress v tekhnol. prokatn. proiz-va".  
Sverdlovsk, Metallurgizdat, 1960, 562-571)

TEXT: The longitudinal variation in thickness of strips was studied by measuring the thickness during pickling and on the cutting unit. It was established that: 1) the difference in thickness of the rear and front ends of the strip varies between 0.03 and 0.46 mm; 2) thickness of the rear ends exceeds the thickness of the middle of strips by 0.3 to 0.47 mm; 3) the difference in thickness between the front ends and the middle of strips varies between - 0.02 and + 0.18 mm; 4) thickness of the front ends of strips is less than thickness of the middle over the length 800 - 1,000 mm. The automatic adjustment of the rear end of strips at the 6-th stand reduces the thickness variation at the ends by a factor of 2 - 2.5.

[Abstracter's note: Complete translation]

V. Pospekhov

Card 1/1

SHUBIN, Ye.V.; FAYZULLIN, V.Kh.

Cold rolling of sheet iron on a continuous five-stand mill. Stal'  
21 no. 4:333-336 Ap '61. (MIRA 14:4)

1. Magnitogorskiy metallurgicheskiy kombinat.  
(Rolling (Metalwork)) (Sheet iron)

PALOCKIN, V.A., inzh.; FAYZULLIN, V.Kh., inzh.; SHUBIN, Ye.V., inzh.

Determining power parameters of a two-stand cold rolling mill and the effect of cold-rolling conditions on the strength properties of sheet steel. Sbor. trud. TSNIICHM no.28:62-73 '62. (MIRA 15:11)  
(Rolling mills) (Sheet steel)

FAYZULLIN, V.Kh.inzh.; KASHINTSEV, V.V., inzh.; Prinimali uchastiye:  
MISHIN, Yu.A.; VINOGRADOV, L.G.; VINOGRADOVA, S.I.

Method of reducing thickness variations in cold-rolled strip,  
Stal' 22 no.3:249-252 Mr '62. (MIRA 15:3)

1. Magnitogorskiy metallurgicheskiy kombinat.  
(Rolling (Metalwork)) (Automatic control)

FAYZULLIN, V.Kh., inzh.; RADYUKEVICH, V.L., inzh.

Optimum shape in cross section of strips for sheet steel manufacture. Stal' 22 no.10:934-936 0'62. (MIRA 15:10)

1. Magnitogorskiy metallurgicheskiy kombinat.  
(Rolling (Metalwork))

FAYZULLIN, V.Kh.; MEL'TSER, V.V.; GALEYEV, I.; FAYNBERG, L.B.; MIROSHNIKOV, I.K.

Effect of the initial shape of working rolls of continuous mill  
finishing stands on the shape of the rolled strip section. Stal'  
23 no.7:624-627 J1 '63. (MIRA 16:9)  
(Rolling (Metalwork)) (Rolls (Iron mills))

L 04310-67 EWP(k)/EWI(m)/EWP(t)/ETI LJP(c) JD/LW  
ACC NR: AP6018261 (N) SOURCE CODE: UR/0133/66/000/002/0146/0151

AUTHORS: Boyarshtinov, M. I. (Professor); Fayzullin, V. Kh. (Engineer); Karlik, M. I. (Engineer)

ORG: none

TITLE: Investigation into the causes of longitudinal thickness nonuniformity and its elimination during continuous strip rolling

SOURCE: Stal', no. 2, 1966, 146-151

TOPIC TAGS: sheet metal, steel, carbon steel, steel forging, metal rolling / St2 steel, 08kp steel, 15kp steel, St3 steel

ABSTRACT: The parameters which determine the thickness of continuously rolled sheets were investigated. The investigation was carried out on the sheet-metal rolling mill 1450 of the Magnitogorskiy Metallurgical Concern (Magnitogorskiy metallurgicheskiy kombinat). The effect of rolling temperature and tension on the thickness uniformity of low-carbon steel sheets was studied. The stand temperatures were calculated after the method of P. Lee, R. Sims, and H. Wright (Iron and Steel, 1962 v. 35, No. 14, p. 624--627), and the deformation resistance as a function of the rate of deformation, the temperature, and magnitude of compression was calculated after V. I. Zyuzin, M. Ya. Brovman, and A. F. Mel'nikov (Soprotivleniye deformatsii staley pri goryachey prokatke, Izd. Metallurgiya, 1964, str. 211--233). The experimental results are presented in

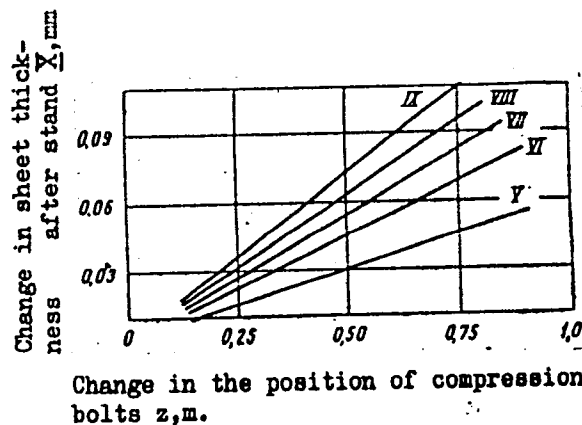
Card 1/2

UDC: 621.771.24

ACC NR: AP6018261

graphs and tables (see Fig. 1).

Fig. 1. Dependence of the decrease of sheet thickness  $\Delta$  on the change in the position of compression bolts  $z$ , for stands V-IX, for additional pressure applied to these stands.



The following relationship between the distribution of the rolling stand pressure and the change in the sheet thickness was established

$$\Delta h_i = z_n \sum_{k=0}^n \frac{v_n}{v_{n+1}} \cdot \frac{1}{w_{n+1}},$$

where  $\Delta h_i$  is the change in longitudinal thickness,  $z_n$  - the position of compression bolt,  $v_n$  - rate of rolling, and  $w = z/\Delta$ . The indexes  $n$  and  $n + 1$  refer to the stand numbers. It is concluded that an accurate knowledge of the relationship  $w$  permits an accurate control of sheet thickness. Orig. art. has: 2 tables, 5 graphs, and 2 equations.

Card 2/2 *gl* SUB CODE: 13/ SUBM DATE: none/ ORIG REF: 004/ OTH REF: 001

KUZNETSOV, Ye.V.; PROKHOROVA, I.P.; FAYZULLINA, D.A.

Chemical transformations of polystyrene. Vysokom.sped. 3 no.10:  
1544-1548 0 '61. (MIRA 14:9)

1. Kazanskiy khimiko-tekhnologicheskii institut imeni S.M.  
Kirova.

(Styrene polymers)

L 57092-65 EWT(m)/EPF(c)/EMP(j)/T Pc-4/Pr-4 WW/RM

ACCESSION NR: AP5013049

UR/0190/65/007/005/0761/0764  
541.64

AUTHORS: Kuznetsov, Ye. V.; Fayzullina, D. A.; Tyurikova, R. P.

TITLE: Reaction of aromatic disulfochlorides with trimethyl- and tetramethyl-bearing organophosphorus compounds

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 5, 1965, 761-764

TOPIC TAGS: aromatic compound, organo metallic compound, chloride, polycondensation, polymeric structure

ABSTRACT: Phosphorus-bearing polysulfonates (by reaction of aromatic disulfochlorides with organophosphorus compounds containing three and four methylene groups) were synthesized. The initial material used was tetramethyloctaphosphonium chloride (TMPCh), trimethylphosphine (TMPh), and benzene, toluene, and chlorobenzene sulfochlorides. When TMPCh reacts with disulfochlorides, formaldehyde is formed. This means, as expected, that TMPCh enters the reaction as an oxide of TMPh. Polysulfonates are obtained by polycondensation in a melt, without catalyst, during agitation in a current of purified nitrogen. When polysulfonates are synthesized from TMPCh, polymers with linear structure are obtained

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L 57092-65

ACCESSION NR: AP5013049

2

when the mass is heated to 120C. When the temperature is raised to 135-140C a steric structure is obtained. Polycondensation of disulfochlorides with TMPh occurs at 90-120C; elevation of the temperature to 140C does not produce steric structure. Polycondensation generally takes 8-9 hours. After purification, the products from TMPh form white to light brown powder. The linear polysulfonates dissolve in dimethylformamide, 10% KOH, and concentrated sulfuric acid. The products from TMPh are brown glassy resins, and dissolve in dimethylformamide and 10% KOH. They also deliquesce on standing in air. None of the products obtained burn when introduced into a flame. The properties of the phosphorus-bearing polysulfonates are tabulated. Orig. art. has: 1 table and 3 formulas.

ASSOCIATION: Kazanskiy khimiko-tekhnologicheskii institut im. S. M. Kirova  
(Kazan Institute of Chemical Engineering)

SUBMITTED: 08Oct62

ENCL: 00

SUB CODE: 00, 00

NO REF SOV: 008

OTHER: 000

Card

2/2

L 13295-66 EWT(m)/T/EWP(j) RM

ACC NR: AP6000330

SOURCE CODE: UR/0286/65/000/021/0019/0019

INVENTOR: Kuznetsov, Ye. V.; Fayzullina, D. A.; Fayzullin, I. N.; Prasolova, T. N.; Tyurikova, R. P.

ORG: none

TITLE: A method for producing polysulfonates which contain phosphorus. Class 12, No. 175964 <sup>40</sup><sub>6</sub>

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 21, 1965, 19

TOPIC TAGS: polymer, organic phosphorus compound, sulfonation, *SULFUR COMPOUND*

ABSTRACT: This Author's Certificate introduces a method for producing polysulfonates which contain phosphorus. New polymers <sup>44, 55</sup> are produced by interacting disulfochlorides with organophosphorus compounds which contain hydroxyl radicals.

SUB CODE: 07/ SUBM DATE: 06Jul62/ ORIG REF: 000/ OTH REF: 000

jw  
Card 1/1

UDC: 678.85 : 678.684

A L 11520-66 EWT(m)/EWP(j) RPL WW/RM  
 ACC NR: AP6001870 SOURCE CODE: UR/0190/65/007/012/2146/2149  
 AUTHORS: Kuznetsov, Ye. V.; Fayzullina, D. A.; Fayzullin, I. N.; Prosolova, T. N.;  
 Avvakumova, N. I.  
 ORG: Kazan' Chemico-Technical Institute im. S. M. Kirov (Kazanskiy khimiko-  
 tekhnologicheskii institut)  
 TITLE: Interaction of aromatic disulfochlorides with dimethylol-containing organo-  
 phosphorus compounds. 2nd communication in the series Phosphorus-containing poly-  
 sulphonates  
 SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 12, 1965, 2146-2149  
 TOPIC TAGS: polymer, polymerization, organic phosphorus compound, organic sulfur  
 compound, sulfonic acid, *Organic synthetic process*  
 ABSTRACT: This work was performed to extend the previously reported results of  
 Ye. V. Kuznetsov, D. A. Fayzullina, and R. P. Tyurikova (Vysokomolek. soyed., 7,  
 761, 1965) and particularly to investigate the possibility of synthesizing linear  
 polysulphonates on the basis of aromatic disulfochlorides and dimethyl-containing  
 phosphorus organic compounds. The following phosphorus-containing polysulfonates  
 based on bis-methylolphosphinic acid, propyl-, isopropyl-, isobutyl-, dimethylol-  
 phosphines and benzene-, toluene-, chlorobenzene-, diphenyl-, naphthalenedisulfo-  
 chlorides were synthesized. The reactions were carried out either in the melt or  
 Card 1/2 UDC: 541.64+678.86

L 11520-66

ACC NR: AP6001870

in n-heptane at 70—130C. Several physical properties, e.g., refractive index, solubility, viscosity, etc. were studied, and the results were tabulated. It was found that polysulfonates derived from bis-methylol-phosphinic acid hardened when treated with diisocyanates. Orig. art. has: 2 tables and 4 equations.

SUB CODE: 0711/ SUBM DATE: 29Jan65/ ORIG REF: 003/

Card

2/2

FAYZULLINA, F.Z.

Rare case of open dislocation of the tibia. Ortop., travm. i  
protez. 25 no.1:56-57 Ja '64. (MIRA 17:9)

1. Iz travmatologicheskogo otdeleniya (zav. - A.A.Rozhnova)  
stantsii skoroy pomoshchi Izhevskaya i Tsentral'nogo instituta  
travmatologii i ortopedii (dir. - chlen-korrespondent AMN SSSR  
prof. M.V.Volkov). Adres avtora: Moskva A-299, Novaya Ipatovka,  
d.8, Tsentral'nyy institut travmatologii i ortopedii.

FAYZULLINA, F.Z. (Izhevsk 17, Udmurtskoy ASSR, Korotkaya ul. d.51)

State of interosseous muscles in congenital syndactylia of the hand in children. Ortop., travm. i protez. 26 no.7:38-42 J1 '65. (MIRA 18:7)

1. Iz fiziologicheskoy laboratorii (zav. - kand. med. nauk T.I. Cherkasova)  
TSentral'nogo instituta travmatologii i ortopedii (direktor - chlen-korrespondent AMN SSSR prof. N.V. Volkov).

FAYZULLINA, F.Z.

Some problems of surgical treatment of congenital syndactylia  
in children. Ortop., travm. i protez. 25 no.11:13-18 k. 164.  
(MIRA 18:11)

1. Iz TSentral'nogo instituta travmatologii i ortopedii (dir. -  
chlen-korrespondent AMN SSSR prof. M.V. Volkov). Adres avtora:  
Moskva A-299, Novaya Ipatovka, d.8. TSentral'nyy institut  
travmatologii i ortopedii. Submitted February 18, 1963.

ANDREYEV, V.G., kandidat meditsinskikh nauk; FAYZULLINA, G.A., vrach;  
ZAKHAROVA, R.I., vrach.

Causative agents of fungous disease among the inhabitants of Astrakhan'  
Province. Vest.ven. i derm. no.3:58 My-Je '53. (MLBA 6:7)

1. Astrakhanskiy meditsinskiy institut.  
(Astrakhan' Province--Medical mycology)

FAYZULLINA, G.L.

Clinical aspects and treatment of pretumorous and tumorous  
diseases of the larynx. Nauch. trudy Kaz. gos. med. inst.  
14:565-566 '64. (MIRA 18:9)

1. Kafedra otorinolaringologii (zav. - prof. N.N.Lozanov)  
Kazanskogo meditsinskogo instituta.

OBOLENTSEV, R.D.; BUKHAROV, V.G.; FAYZULLINA, N.K.

Complex compounds of some cyclic and aliphatic sulfides with  
mercury chloride. Khim.sera-i azotorg.sced.sod.v nef.t.i nefteprod.  
3:51-65 '60. (MIRA 14:6)

1. Bashkirskiy filial AN SSSR, Otdel khimii.  
(Sulfur organic compounds) (Mercury chloride)

OBOLENTSEV, R.D.; BUKHAROV, V.G.; FAYZULLINA, N.K.

Iodomethylates of some cyclic and aliphatic sulfides. *Khim.sera-i*  
azotorg.sced.sod.v neft.i neftaprod. 3:67-73. '60. (MIRA 14:6)

1. Bashkirskiy filial AN SSSR, Otdel khimii.  
(Sulfide) (Iodomethylation)

FAYZULLINA, N.K.; GUR'YANOVA, Ye.N.

Dipole moments of mercury bromide complexes with organic  
sulfides. Zhur. ob. khim. 34 no. 3:941-946 Mr '64.  
(MIRA 17:6)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova i Institut  
organicheskoy khimii Bashkirskogo filiala AN SSSR.

KHOTYNTSEVA, L.I.; BOGOMOLOV, A.I.; FAYZULLINA, Ye.M.

Reduction of high-molecular weight aliphatic ketones to hydrocarbons in the presence of aluminosilicate catalysts. Dokl. AN SSSR 155 no. 5:1152-1154 Ap '64. (MIRA 17:5)

1. Vsesoyuznyy neftyanoy nauchno-issledovatel'skiy geologo razvedochnyy institut. Predstavleno akademikom B.A.Kazanskim.

FAYZULLOV, F.S.

51-2-8/15

AUTHORS: Sobolev, N.N. and Fayzullof, F.S.

TITLE: A photoelectric pyrometer for measurement of the colour temperature of flames. (Fotoelektricheskiy pirometr dlya izmereniya tsvetovoy temperatury plamen).

PERIODICAL: "Optika i Spektroskopiya" (Optics and Spectroscopy) 1957, Vol.3, No.2, pp.162-168 (U.S.S.R.)

ABSTRACT: The colour temperature measurements are employed for distant objects and those whose absorption is near to a grey body but is not known exactly. The aim was to construct an instrument for measurement of the colour temperature of non-stationary and short-duration flames. The work was carried out in 1949-1950. A single-channel photoelectric pyrometer is described first. It is shown schematically in Fig.1. An objective 2 (numbers refer to Fig.1 designations) focuses an image of the flame 1 onto a slit 3. Behind the slit there is a disk 4, rotated by a motor 8 at 3000 rev/min, which carries three filters: red 7, blue 9 and green (not shown in Fig.1). The filtered light falls on a photoelement 6 which is followed by an amplifier 10 and a cathode-ray oscillograph 11. For non-stationary flames the c.r.o. display (50 c/s) was photographed with a cine camera. A typical record is shown in Fig.2 with red, blue and green pulses from left to right. This pyrometer was calibrated with a lamp LT-1. The brightness temperatures

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A photoelectric pyrometer for measurement of the colour temperature of flames. (Cont.)

of this lamp were measured with a disappearing-filament pyrometer and these temperatures were converted, using tables, into colour temperatures given as a function of the lamp current. The lamp was placed at 1 in Fig.1 and by variation of its current for each (known) colour temperature a set of values was obtained for the ratios of the c.r.o. pulse intensities for blue and red, and for green and red. These are given in Fig.3. The described single-channel photoelectric pyrometer is suitable only for flames which are stationary during one revolution of the filter disk (in this case 1/50 sec). It is, however, suitable for measurement of average colour temperatures. For measurement of very rapidly changing colour temperatures a two-channel photoelectric pyrometer was constructed. It is shown schematically in Fig.4, where 1 = an additional source of light for measurement of flame absorption, 2, 4 and 7 are lenses, 3 = the flame, 5 = a slit, 6 = a modulating disk with 24 apertures, rotated by a motor 11, 8 = a semitransparent aluminized glass plate (beam-splitter), 9 (6400 Å pass-band) and 12 (4500 Å) are filters, 10 and 13 are photoelements, 14, 15, 16 and 17 are amplifiers, 18 is a vibration (string) oscillograph,

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A photoelectric pyrometer for measurement of the colour temperature of flames. (Cont.)

19 is a "logometer", an instrument for measuring a ratio of two electrical quantities (currents). The electronic circuit is given in Fig. 5. The two-channel pyrometer was calibrated using the LT-1 lamp and the vibration oscillograph. This calibration was checked by six measurements carried out during one day using green and infrared filters. The results of this check (see Fig. 6) show that errors are of the order of  $20^{\circ}\text{K}$  or 1%. The pyrometer was also calibrated between 2200 and  $3100^{\circ}\text{K}$  using an LT-2 lamp and two milliammeters instead of the vibration oscillograph. The results are plotted in Fig. 7 as the logarithm of the current ratio ( $\log n_K/n_C$ ) against the reciprocal of the colour temperature ( $10^6/T$ ). To avoid the necessity of calculation of the current (milliammeters) or the intensity (vibration oscillograph) ratios a "logometer", which gives mean current ratios for periods of 1-2 sec, could be used. The logometer must be graduated and the temperature error does not exceed  $10^{\circ}\text{K}$ . The calibration of the two-channel pyrometer described here is valid for one working day. The two channel pyrometer can also be used for measurement of the brightness temperature

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A photoelectric pyrometer for measurement of the colour temperature of flames. (CONT.)

and the flame absorption (using an additional source of light, 1 in Fig.4). There are 9 figures; 6 references (4 of which are Slavic).

SUBMITTED: December 29, 1956.

AVAILABLE: Library of Congress

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FAYZULLOV, F. S.

AUTHORS: Sobolev, N. N., Potapov, A. V., Kitayeva, SOV/48-22-6-23/28  
V. P., Fayzulloev, F. S., Alyamovskiy,  
V. N., Antropov, Ye. T., Isayev, I. L.

TITLE: The Spectroscopical Investigation of the State of the Gas  
Behind the Shock-Wave (Spektroskopicheskoye issledovaniye  
sostoyaniya gaza za udarnoy volnoy)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya fizicheskaya, 1958,  
Vol. 22, Nr 6, pp. 730-736 (USSR)

ABSTRACT: This paper describes a practical method of obtaining a high-  
temperature plasma for research work carried out in laboratories,  
viz. the method of the "shock tube" (Fig 1). The shock tube is  
divided by means of a diaphragm into two chambers (for high-  
and low pressure). As soon as high pressure develops in the  
high-pressure chamber the diaphragm is caused to burst, and at  
the same time a shock wave forms in the second chamber round the  
shock center - i. e. the rarefying wave. Between the fronts of  
the shock wave and the contacting surface a layer of gas of  
high temperature is formed which is here described as "lock"  
(probka). This "lock" moves with the velocity  $U_2$ , which is

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The Spectroscopical Investigation of the State  
of the Gas Behind the Shock-Wave

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somewhat lower than that of the shock wave  $U_s$ . The temperature of the "lock" increases with a reduction of the molecular weight of the gas. If the velocity  $U_s$  is known, it is possible, by basing on the law of conservation of the mass, the impulse and the energy, as well as on the strength of the ratio of enthalpy, the degree of ionization, and the state of the gas, to determine the 6 unknown quantities:  $p_2$ ,  $Q_2$ ,  $U_2$ ,  $H_2$ ,  $T_2$  and  $\alpha_2$  relating to the state of the monoatomic gas located in the "lock". A graphical illustration of 3 states of argon and 3 states in air behind the shock wave is given. The device is described on the basis of a schematical drawing. The chapter dealing with: The Method of Relative Intensities describes the use of the device mentioned for the purpose of obtaining the spectral lines for Li and Na for measuring the temperature by the method of relative intensities. Measurements were carried out photographically and photoelectrically, without as well as with full reabsorption of spectral lines. The chapter: The Generalized Method of Reversing the Spectral Lines is based upon a paper (Ref 7) in which the said method is explained with respect to its application for

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the purpose of measuring temperature without observing a moment of reversal. In this case the optical scheme is used for carrying out the following measurements: The radiation intensity of the gas in the spectral line, the intensity of the radiation of a source employed for the purpose of comparison, and of temperature. For measuring temperature a device was used which is described by means of a schematical drawing (Fig 5). Finally, a graphical representation of the results obtained by measuring the temperatures of nitrogen and the air behind the impulse wave by means of the photoelectric method of the reversal of spectral lines is given. There are 6 figures and 7 references, 3 of which are Soviet.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR  
(Physics Institute imeni P. N. Lebedev, AS USSR)

1. Electron gas--Spectra    2. Electron gas--Radiation    3. Spectroscopy  
4. Shock tubes--Applications    5. Shock waves--Analysis

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SOV/51-6-3-3/28

AUTHORS: Sobolev, N.N., Potapov, A.V., Kitayeva, B.F., Fayzulloev,  
F.S., Alyamovskiy, V.N., Antropov, Ye.T. and Isayev, I.L.

TITLE: Spectroscopic Studies of the State of Gas Behind a Shock  
Wave. I (Spektroskopicheskoye issledovaniye sostoyaniya  
gaza za udarnoy volnoy. I)

PERIODICAL: Optika i Spektroskopiya, 1959, Vol 6, Nr 3, pp 284-296  
(USSR)

ABSTRACT: The paper describes attempts to measure the temperature  
behind a shock wave using relative intensities of two spectral  
lines. Shock waves were produced in a shock tube (Fig.5),  
9.2 cm in diameter and 4.5 m long. The high-pressure  
chamber I (50 cm long) was filled with hydrogen at pressures  
of 110-130 atm. The low-pressure chamber II (4 m long)  
was filled with air or nitrogen at 10 mm Hg. The two  
chambers were separated by an aluminum diaphragm, bursting of  
which produced shock waves in the low-pressure chamber. The  
spectrum of radiation emitted by the region behind a shock  
wave was recorded either photographically or photoelectrically  
Card 1/4 using a spectrograph ISP-51. In the latter case two photo-

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Spectroscopic Studies of the State of Gas Behind a Shock Wave. I

multipliers (FEU-17 or FEU-22, cf. Fig.6) were used to register two spectral lines; the signals from the photo-multipliers were amplified (cf. circuit in Fig.7), displayed on an oscillograph OK-17M and photographed. The shock-wave velocity was found by measuring the time which it took the wave to travel between two ionization counters, denoted by  $\Lambda_{1,2}$  in Fig.5. Experiments were carried out at shock-wave velocities of 3-4 km/sec at which the temperatures behind shock fronts were expected to be 3500-4500°K. At these temperatures neither air nor nitrogen emits atomic lines. The authors consequently introduced small amounts of Li and Na in the form of LiCl or NaCl. The temperatures behind shock-wave fronts, calculated from the relative intensities of Li and Na lines, were highly scattered (Table 2) and the scatter varied from one line pair to another and from one experiment to another. This scatter was due to partial re-absorption, as well as to disturbance of the thermodynamic state of the gas by the comparatively large amounts of salts which had to be used. Moreover,

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the salts settled on the cold walls of the shock tube and their emission was consequently concentrated near the walls (Fig.9). To ensure a uniform distribution of the emitting substances behind a shock-wave front the authors used gaseous dicyanogen in their second series of experiments. They deduced temperatures from the relative intensities of vibrational bands of cyanogen (dicyanogen dissociates at these temperatures) using the method described by Brinkman (Ref.6) and Smit (Ref.7). Again no reliable values of the temperature behind wave fronts could be obtained (Tables 3,4) because of the long time necessary to establish equilibrium distribution in vibrational degrees of freedom of cyanogen. The authors conclude that the method of relative intensities is suitable only for determination of temperatures above 5000°K; between 1500 and 5000°K the self-reversal method (Ref.6) should be

Card 3/4 employed. There are 10 figures, 4 tables and 9

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Spectroscopic Studies of the State of Gas Behind a Shock Wave. I

references, of which 3 are Soviet, 2 English, 1  
translation of English into Russian and 3 Dutch.

SUBMITTED; April 3, 1958.

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SOBOLEV, N.N.; MELUSOV, M.M.; RODIN, G.M.; SVIRIDOV, A.G.; SKOROBOGATOV,  
N.G.; PAYZULLOV, F.S.

Temperature of the flame of a liquid-propellant rocket engine. Part 1.  
Zhur.tekh.fiz. 29 no.1:27-36 Ja '59. (MIRA 12:4)

1. Fizicheskiy institut im. P.N. Lebedeva AN SSSR, Moskva.  
(Rockets (Aeronautics)) (Flame) (Temperature—Measurement)

SOBOLEV, N.N.; KITAYEVA, V.F.; RODIN, G.M.; FAYZULLOV, F.S.; FEDOROV, A.I.;

Temperature of the flame of a liquid-propellant rocket engine.

Part 2. Zhur.tekh.fiz. 29 no.1:37-44 Ja '59.

(MIRA 12:4)

1. Fizicheskiy institut im. P.N. Lebedeva AN SSSR, Moskva.

(Rockets (Aeronautics)) (Flame) (Temperature--Measurement)

5(4), 24(8)

SOV/20-127-3-17/71

AUTHORS: Fayallov, F. S., Sobolev, N. N., Kudryavtsev, Ye. M.

TITLE: The Temperature of Nitrogen and Air Behind a Shock Wave

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 3, pp 541-544 (USSR)

ABSTRACT: 1) If a shock wave propagates in a shock tube, it is possible, by measurement of the propagation rate of the shock wave  $u_s$ , to calculate the temperature  $T_2$ , density  $\rho_2$ , pressure  $p_2$ , and the velocity of the gas  $u_2$  behind the shock wave if the temperature  $T_1$ , density  $\rho_1$ , and pressure  $p_1$  of the gas before propagation of the shock wave are known. For the simplification of calculation, it is assumed in thermodynamics that  $T$  and  $P$  are constant along the obstruction formed, and that the latter grows linearly with time. The agreement of the calculation carried out under these simplified conditions with the experiment is investigated in the present paper. The experimental data on  $T_2$  and  $p_2$  of the air and the nitrogen behind the shock wave were obtained by the generalized method of the reversal of lines with photoelectric recording.

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## The Temperature of Nitrogen and Air Behind a Shock Wave

Good agreement between experimentally and theoretically calculated data was obtained. Moreover, the temperature distribution along the obstruction was investigated in this paper, and its influence exercised upon the calculated values was evaluated. In the case of a small  $u_s$ , the temperature was found to remain constant along the obstruction. At a velocity of  $u_s \sim 3 - 4$  km/sec, a sharp temperature drop, however, occurred. The two possible ways of explaining this drop are investigated: 1) The temperature along the tube is not constant, and thus also not  $T$  along the obstruction. 2) The sodium flashes up with a delay, and the temperature at the end of the obstruction is first recorded. In the second case it was found that the very slight delay of flashing up could not cause the sharp temperature drop, which could be removed, however, by thoroughly cleaning the tube. Agreement between experiment and theory then remained good. This proved the correctness of the assumptions made in thermodynamics. The method of the reversal of lines as used here may also be employed with success for measuring the temperature along the obstruction. It is recommended, at temperatures of up to

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3,500°K behind the shock wave, to use the Na-D-line, and at higher temperatures the ion line of Ba. The temperature distribution at the beginning of the obstruction could not be investigated. In the case of nitrogen, an increase of temperature was found to occur at the end of the obstruction, which possibly originated from a chemical reaction of N and the used combustion gas H on the contact surface. In conclusion, the authors thank A. V. Potopov and S. S. Semenov for discussing the results, and Ye. T. Antropov for his assistance in experiments. There are 4 figures and 8 references, 4 of which are Soviet.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR  
(Physics Institute imeni P. N. Lebedev of the Academy of Sciences, USSR)

PRESENTED: April 4, 1959, by D. V. Skobel'tsyn, Academician

SUBMITTED: April 4, 1959

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FAYZULLOV, F.S.; SOBOLEV, N.N.; KUDRYAVTSEV, Ye.M.

Spectroscopic investigation of the state of a gas behind a shock wave.  
Part 2. Opt. i spektr. 8 no.5:585-593 My '60. (MIRA 13:9)  
(Shock waves---Spectra)

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S/076/60/034/07/09/009  
R015/B070

AUTHORS: Obukhov-Denisov, V. V., Sidorov, T. A., Fayzulloev, F. S.,  
Cheremisinov, V. P.

TITLE: The Vibration Spectrum of Vitreous Beryllium Fluoride

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 7,  
pp. 1622-1624

TEXT: The vibration spectrum of vitreous beryllium fluoride is investigated and the results are discussed. All investigations of Raman spectra were made on a three prism spectrograph MCH (ISP)-51 and the spectra were photographed. No Raman spectrum, however, of vitreous beryllium fluoride was observed. Infrared absorption spectrum was investigated on a double radiation spectrophotometer (Ref. 2) and an intensive absorption band with a maximum at  $750\text{ cm}^{-1}$  was established. It is assumed that the structure of  $\text{BeF}_2$  is neither typically ionic nor molecular. The high degree of homopolarity of the Be - F bond shows that the valence electrons are for most of the time between Be and F atoms and guarantee the formation of

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The Vibration Spectrum of Vitreous Beryllium  
Fluoride

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molecules or complicated ions. The ionic character of the bond on the other hand shows that in  $\text{BeF}_2$  molecule the atoms of Be and F possess charges and a strong interatomic interaction is present. The authors thank L. R. Batsanova and A. V. Novoselova for the  $\text{BeF}_2$  sample and N. N. Sobolev for advice. There are 1 figure and 8 references: 6 Soviet, 1 German, and 1 American.

ASSOCIATION: Akademiya nauk SSSR Fizicheskii institut im. P. N. Lebedeva  
(Academy of Sciences of the USSR, Physics Institute imeni  
P. N. Lebedev)

SUBMITTED: October 31, 1958

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FAYZULLOV, F. S. Cand Phys-Math Sci — (diss) "Pyrometric investigation of the state of air nitrogen and oxygen behind a shock wave," Moscow, 1960, 10 pp, 140 cop. (Moscow Engineering Physics Institute) (KL, 42-60, 111)

5.4100

S/051/80/008/06/004/024  
R201/R691

AUTHORS: Faysullov, F.S., Sobolev, N.N. and Kudryavtsev, Ye.M.

TITLE: A Spectroscopic Investigation of the State of Gas Behind a Shock Wave. | III.

PERIODICAL: Optika i spektroskopiya, 1960, Vol 8, Nr 6, pp 761-768 (USSR)

ABSTRACT: The paper is a continuation of earlier work (for Parts I and II see Refs 2 and 4, where the theory, experimental procedures and treatment of results are described in detail). A 92 mm long shock tube, with either one or two diaphragms, was employed to produce shock waves of 1.9 to 4.3 km/sec velocities and with 0.1 to 4 atm pressures in the region immediately behind the shock wave (known as the "plug"). The temperatures of nitrogen and air "plugs" were measured by a generalised version of spectral line reversal (for details see Part II, Ref 4), using the D-lines of Na and the resonance line of Ba II at 4554 Å. The measured temperatures were found to fall along the length of the "plugs" (Figs 1 and 2) due to a decrease of the shock-wave velocity along the shock tube. The "plug" temperatures rose with the shock-wave velocity,  $U_s$ , in satisfactory agreement with the theory: for air (Fig 5) the temperatures rose

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